

## CLAIMS

What is claimed is:

1. A circuitized substrate assembly comprising:  
  
a first circuitized substrate including an opening therein;  
  
a second circuitized substrate bonded to said first circuitized substrate and including an opening therein substantially aligned with said opening in said first circuitized substrate;  
and  
  
a quantity of electrically conductive paste substantially completely filling said openings in said second, bonded circuitized substrate and only partly filling said opening in said first circuitized substrate.
2. The assembly of claim 1 wherein said first and second circuitized substrates each include at least one electrically conductive plane and at least one dielectric layer.
3. The assembly of claim 1 wherein each of said openings in said first and second circuitized substrates includes an electrically conductive material thereon, said electrically conductive paste being in electrical contact with said electrically conductive material in both of said openings.
4. The assembly of claim 3 wherein said electrically conductive material comprises a plated layer of metal.
5. The assembly of claim 1 further including an interim dielectric layer between said first and second circuitized substrates.

6. The assembly of claim 1 further including a layer of dielectric material positioned on an external surface of said first circuitized substrate and extending within said opening of said first circuitized substrate.
7. The assembly of claim 1 further including a third circuitized substrate also having an opening therein and bonded to said second circuitized substrate such that said opening in said third circuitized substrate is substantially aligned with said opening in said second circuitized substrate, said quantity of electrically conductive paste also only partly filling said opening in said third circuitized substrate.
8. A circuitized substrate assembly comprising:
  - a first circuitized substrate including an opening therein;
  - a second circuitized substrate bonded to said first circuitized substrate and including an opening therein aligned with said opening in said first circuitized substrate;
  - an electrically conductive cover member substantially covering said opening in said second circuitized substrate on the surface of said second circuitized substrate facing said first circuitized substrate; and
  - a quantity of electrically conductive paste positioned on said cover member and only partly filling said opening in said first circuitized substrate.
9. The assembly of claim 8 wherein said first and second circuitized substrates each include at least one electrically conductive plane and at least one dielectric layer.

10. The assembly of claim 8 wherein each of said openings in said first and second circuitized substrates includes an electrically conductive material thereon, said electrically conductive paste being in electrical contact with said electrically conductive material in said opening in said first circuitized substrate.
11. The assembly of claim 10 wherein said electrically conductive material comprises a plated layer of metal.
12. The assembly of claim 8 further including an interim dielectric layer between said first and second circuitized substrates.
13. The assembly of claim 8 further including a layer of dielectric material positioned on an external surface of said first circuitized substrate and extending within said opening of said first circuitized substrate.
14. The assembly of claim 8 wherein said cover member comprises a metallic layer.
15. The assembly of claim 14 wherein said metallic layer is copper.
16. The assembly of claim 8 wherein said opening in said second circuitized substrate is filled with a dielectric material, said cover member being positioned on said dielectric material.
17. The assembly of claim 8 further including a third circuitized substrate also having an opening therein and bonded to said second circuitized substrate such that said opening in said third circuitized substrate is substantially aligned with said opening in said second circuitized substrate, said assembly further including a second cover member substantially covering said opening in said second circuitized substrate and a second quantity of electrically conductive paste positioned on said second cover member and only partly filling said opening in said third circuitized substrate.

18. A method of making a circuitized substrate assembly, said method comprising:
- providing a first circuitized substrate including an opening therein;
- providing a second circuitized substrate including an opening therein;
- substantially filling said opening in said second circuitized substrate with a quantity of electrically conductive paste;
- aligning said first and second circuitized substrates such that said opening in said second circuitized substrate having said electrically conductive paste therein aligns with said opening in said first circuitized substrate; and
- bonding said first and second circuitized substrates together such that said electrically conductive paste only partly fills said opening in said first circuitized substrate while also substantially filling said opening in said second circuitized substrate.
19. The method of claim 18 wherein said bonding of said first and second circuitized substrates is achieved by laminating.
20. A method of making a circuitized substrate assembly, said method comprising:
- providing a first circuitized substrate having an opening therein;
- providing a second circuitized substrate having an opening therein;
- positioning an electrically conductive cover member on a surface of said second circuitized substrate facing said first circuitized substrate to substantially cover said opening in said second circuitized substrate;

positioning a quantity of electrically conductive paste on said cover member;

aligning said first and second circuitized substrates such that said openings in said circuitized substrates are substantially aligned; and

bonding said first and second circuitized substrates such that said quantity of electrically conductive paste only partly fills said opening in said first circuitized substrate.

21. The method of claim 20 wherein said bonding of said first and second substrates is achieved by laminating.